



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,397	01/30/2004	Tomoyuki Ito	008601-0307943	2672
909 7590 07/17/2007 PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102			EXAMINER MONDT, JOHANNES P	
			ART UNIT 3663	PAPER NUMBER
			MAIL DATE 07/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,397	Applicant(s) ITO ET AL.	
	Examiner Johannes P. Mondt	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-31 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 and 24-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14, 21-23 and 30-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/7/07 has been entered.

Response to Amendment

Amendment filed 6/7/07 with said request for Continued Examination forms the basis for this Office Action. In said Amendment applicant substantially amended all claims at least through substantial amendment of independent claims 11 and 21. Applicant also added new claims 30 and 31.

Comments on Remarks submitted with said Amendment are included below under "Response to Arguments".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. ***Claims 11-14, 21-23 and 30-31*** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The

claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the limitation that said "body" is suitable for being suspended and lowered into the vessel during operation "without being connected to the vessel or a pump connected to the vessel" (claim 11), nor the limitation that said "body" is capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel" (claim 21) presumes the absence of friction due to material contact during said operation between said "body" and said "(pressure) vessel" or "pump". There is no support for this limitation in the Specification. Specifically, the limitation "freely movably supported" (page 5, par. [0025], does not imply the absence of material contact and consequent friction, while a connection cannot be denied in the presence of friction.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claims 11-14, 21-23 and 30-31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Through the limitations “a body suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel” (claim 11, lines 3-4) and “a body capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel” (claim 21, lines 3-5) applicant purports to claim a structural property of said body without defining said structural property in structural, but instead solely in functional terms, rendering the meets and bounds of the claim indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. ***Claims 11-14 and 21-23*** are rejected under 35 U.S.C. 102(b) as being anticipated by Paillaman et al. (US 2002/0080905 A1). The following rejections are subject to the noted indefiniteness under 35 USC 112 overleaf. In the rejections “appropriate” as an adjective is assumed to have no patentable weight while the vertical axis is assumed to pertain to the claimed body.

On claim 11: Paillaman et al teach (title, abstract, Figures 1-6 and [0020]-[0040]) an apparatus 82 ([0026] and Figure 3) capable of executing an operation in a vessel 10

(Figure 1 and [0020]) of a nuclear reactor, comprising: a body 84 ([0026]-[0027] and Figure 3) capable of being suspended and lowered into the vessel; a tool 140 ([0026]-[0027] and Figure 4) attached to the body capable of at least one of repairing and inspecting (namely: inspecting, "inspection tool") an interior of a pump 34 ([0020]-[0025] and Figure 2) in the vessel; a guide 120 ([0029] and Figure 4) and supported at a lower portion of the body (see Figure 3), the guide 120 having an inclined surface with respect to a vertical axis (the vertical axis being the axis of elongate frame member 86 of apparatus 82; see Figure 3 and [0027]).

Said guide is capable of having an inclined surface with respect to a vertical axis of the body when the body is suspended (see, e.g., [0028] on drive cable 112), while the guide is movably supported at a lower portion of the body, either by the very tip beyond the segment indicated by 120 in Figure 3, or by drive cable 112, depending on the direction defined as "vertical".

Furthermore, the limitation "being suspended and lowered into the vessel during the operation" is purely functional language, limiting intended use rather than the structure of the apparatus. In reference to the claim language referring to the portion cited above, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the underlying case, Paillaman et al teaches a guide 120 supported as claimed as discussed above, which

by virtue of the drive cable 112 ([0028]) is capable of having an inclined surface (note its flexibility as disclosed), while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described, again because of the drive cable 112.

Furthermore, the limitation "suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel" aiming to describe a structural limitation in terms of the intended use of the claimed body, is purely functional language, limiting intended use rather than the structure of the apparatus. It describes a structural boundary condition without the use of structural limitations, rendering the structural limitation implied to be indefinite (see rejections under 35 USC 112, second paragraph, overleaf. In reference to the claim language referring to the portion cited above, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the instant case, the claimed apparatus comprises of body, tool and guide and can be applied to a suitable vessel in compliance with the claim language dependent only upon dimensional limitations not provided: Paillaman teaches a guide 120 supported as

claimed as discussed above, which is capable of having an inclined surface (note its flexibility at least to a certain extent is implied by the bent form implying spring function), while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described.

On claim 12: the guide 120 includes at least one of a guide rod and a guide surface first portion 124 coupled to second portion 126 by flexible U-joint 128, and, in an alternative identification: and/or probe sub-assembly 130 coupled to second portion 126 by second flexible U-joint 132; see [0029] and Figure 4) inclined at an angle with respect to a vertical axis (i.e., the vertical axis being the axis of elongate frame member 86 of apparatus 82; see Figure 3 and [0027]). Whether this angle is "appropriate" is a matter of use and hence of functional language: In reference to the claim language referring to "appropriate", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

On claim 13: the guide 120 is freely supported at the lower portion of the body 84 (attached to it with one free end; see Figure 4) and is capable to be inclined at an angle (please note the flexible U-joints; see Figure 6 and [0029]-[0032]) with respect to a

vertical axis (the vertical axis being the axis of elongate frame member 86 of apparatus 82; see Figure 3 and [0027]). Whether this angle is "appropriate" is a matter of use and hence of functional language: In reference to the claim language referring to "appropriate", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). Finally, a gravitational force is inherent and thus is a force on the guide contributing to its orientation and hence its angle.

On claim 14: the guide is by virtue of the flexibility of the joints biased to return to an equilibrium position with respect to the body. Whether this position is "appropriate" is a matter of use and hence of functional language: In reference to the claim language referring to "appropriate", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

On claim 21: Paillaman et al teach (title, abstract, Figures 1-6 and [0020]-[0040]) an apparatus 82 ([0026] and Figure 3) capable of executing an operation in a pressure vessel 10 (Figure 1 and [0020]) of a nuclear reactor, comprising:

a body 84 ([0026]-[0027] and Figure 3) capable of being suspended and lowered into the vessel;

a tool 140 ([0026]-[0027] and Figure 4) attached to the body capable of at least one of repairing and inspecting (namely: inspecting, "inspection tool") an interior of a pump 34 ([0020]-[0025] and Figure 2) in the pressure vessel 10;

a guide 120 ([0029] and Figure 4) and supported at a lower portion of the body (see Figure 3), the guide 120 capable of having an inclined surface with respect to a vertical axis (the vertical axis being the axis of elongate frame member 86 of apparatus 82; see Figure 3 and [0027]) when the body is suspended and the guide is inserted into an opening in the pump.

Whether or not such inclined surface actually occurs under the stated conditions is a matter of use and is not of patentable weight in the present apparatus invention. In reference to the claim language referring to "body suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel", applicant attempts to describe a structural limitation in terms of limitations of intended use with reference to a vessel of which the spatial structure and dimensions are not claimed, nor are they provided. Only the suitability has patentable weight, because intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey,¹⁵² USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963).

Art Unit: 3663

Parenthetically it is noted that in use the body is indeed suspended and the guide is inserted into an opening in the pump ([0031]-[0036]). In the instant case, the claimed apparatus comprises of body, tool and guide and can be applied to a suitable vessel in compliance with the claim language dependent only upon dimensional limitations not provided: Paillaman teaches a guide 100 supported as claimed as discussed above, which by virtue of the drive cable is capable of having an inclined surface (note its flexibility as disclosed), while the specifics of the pump nor its and the vessel's spatial parameters are defined in the claimed apparatus and pertain exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described.

Said guide is capable of having an inclined surface with respect to a vertical axis of the body when the body is suspended (see, e.g., [0028] on drive cable 112), while the guide is movably supported at a lower portion of the body, either by the very tip beyond the segment indicated by 120 in Figure 3, or by drive cable 112, depending on the direction defined as "vertical" as either approximately down or approximately up.

Furthermore, the limitation "when the body is suspended, wherein the guide movably supported at a lower portion of the body so that the inclined surface of the guide is first inserted into the pump when the body is suspended and lowered into the vessel" is purely functional language, limiting intended use rather than the structure of the apparatus. In reference to the claim language referring to the portion cited above,

intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the underlying case, Paillaman et al teaches a guide 120 supported as claimed as discussed above, which by virtue of the drive cable 112 ([0028]) is capable of having an inclined surface, while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described, again because of the drive cable 112.

Furthermore, the limitation "suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel" aiming to describe a structural limitation in terms of the intended use of the claimed body, is purely functional language, limiting intended use rather than the structure of the apparatus. It describes a structural boundary condition without the use of structural limitations, rendering the structural limitation implied to be indefinite (see rejections under 35 USC 112, second paragraph, overleaf. In reference to the claim language referring to the portion cited above, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the

Art Unit: 3663

prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the instant case, the claimed apparatus comprises of body, tool and guide and can be applied to a suitable vessel in compliance with the claim language dependent only upon dimensional limitations not provided: Paillaman teaches a guide 120 supported as claimed as discussed above, which is capable of having an inclined surface (note its flexibility at least to a certain extent is implied by the bent form implying spring function), while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described.

Finally, the tapering surface of an opening as claimed is a tapering surface an opening of an object (pump) to which the apparatus is applied, while the tapering nature of said opening surface is no way inhibits the application of the apparatus by Paillaman et al because the drive cable enables the guide to be inserted at an angle. Once again, the tapering surface of said opening limits an object to which the apparatus is applied and hence constitutes functional language failing to limit the invention of the apparatus as explained above for the same reasons, said same reason herewith being included by reference.

On claim 22: the guide 120 is freely supported at the lower portion of the body 84 (attached to it with one free end; see Figure 4) and is capable to be inclined at an angle

(please note the flexible U-joints; see Figure 6 and [0029]-[0032]) with respect to a vertical axis (the vertical axis being the axis of elongate frame member 86 of apparatus 82; see Figure 3 and [0027]). Whether this angle is "appropriate" is a matter of use and hence of functional language: In reference to the claim language referring to "appropriate", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). Finally, a gravitational force is inherent and thus is a force on the guide contributing to its orientation and hence its angle.

On claim 23: the guide is by virtue of the flexibility of the joints biased to return to an equilibrium position with respect to the body. Whether this position is "appropriate" is a matter of use and hence of functional language: In reference to the claim language referring to "appropriate", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

On claim 30: an orientation of the guide *can* be varied by a moveable support so as to correspond to an interior surface of the pump as the guide is inserted into the pump because of aforementioned flexible joints. Again, the limitation is one of intended

use, said intended use inter alia dependent upon spatial structures and dimensions (of the pump) not claimed (nor disclosed in relation to those of the guide). Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 11-14 and 21-23** are rejected under 35 U.S.C. 102(e) as being anticipated by Ganoza et al. (US 2003/0085301 A1). The following rejections are provided subject to the noted indefiniteness under 35 USC 112 overleaf.

Ganoza et al teach (title, abstract, Figures 1-5 and 8, and [0017]-[0039]) an apparatus 80 (Figures 4-5 and 8) for executing an operation in a vessel of a nuclear reactor (a cleaning operation is a special case of an operation), comprising:

a body 84 capable of being suspended and lowered into the vessel 10 ([0017]) (N.B.: the cleaning device is lowered into the vent inlet 66 of the inlet mixer 40 in said pressure vessel 10(see Figures 1-2 and 4-5, and [0018]-[0021]));

a tool 92 ([0021] and Figures 4-5 and 8) attached to the body (see Figures 4-5) capable of at least one of repairing and inspecting an interior of a pump 34 ([0017]) in the pressure vessel 10 (N.B.: cleaning is a special case of repairing); and

a guide 100 supported at a lower portion of the body (see Figure 8 in conjunction with Figures 4-5); the guide having an inclined surface with respect to a vertical axis (see Figures 4-5 and 8, and [0023]).

In reference to the claim language referring to an apparatus “for executing an operation in a vessel of a nuclear reactor”, and to a tool “for at least one of repairing and inspecting”, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Said guide is capable of having an inclined surface with respect to a vertical axis of the body when the body is suspended (see, e.g., the inclined surface as disclosed in Figures 4 and 5 and their discussion in [0020]-[0024]) while the guide is movably

supported at a lower portion of the body, when the body is suspended as depicted in said Figures 4-5, i.e., with the body hanging down rather than up.

Furthermore, the limitation "suitable for being suspended and lowered into the vessel during the operation without being connected to the vessel or a pump connected to the vessel" aiming to describe a structural limitation in terms of the intended use of the claimed body, is purely functional language, limiting intended use rather than the structure of the apparatus. It describes a structural boundary condition without the use of structural limitations, rendering the structural limitation implied to be indefinite (see rejections under 35 USC 112, second paragraph, overleaf. In reference to the claim language referring to the portion cited above, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the instant case, the claimed apparatus comprises of body, tool and guide and can be applied to a suitable vessel in compliance with the claim language dependent only upon dimensional limitations not provided: Ganoza et al teaches a guide 100 supported as claimed as discussed above, which by virtue of the suspension through 84 and 82 ([0021]-[0022]) is capable of having an inclined surface (note its flexibility at least to a certain extent is implied by the bent form implying spring function), while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said

pump when the body is suspended, depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described.

On claim 12: the guide 100 includes at least one of a guide rod and a guide surface (namely bends 102, which are part of a tubing section, and hence meet the limitation “rod” and also the limitation “surface”; see [0023]) inclined at an angle with respect to a vertical axis (“vertical axis” being parallel to tube section 82; see Figures 4-5).

On claim 13: the guide 100 is freely supported at the lower portion of the body 84 (i.e., attached at one end only) (Figure 4) and inclined with respect to a vertical axis (main axis of 84 or main axis of 82; see Figure 4). Whether this angle is “appropriate” is a matter of use and hence of functional language: In reference to the claim language referring to “appropriate”, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). Parenthetically, as evidenced from Figure 8 the angle is suitably flexible for insertion of the body 84 into the jet pump 34. Finally, a gravitational force is inherent and thus is one of the forces on the guide, and hence contributes to its orientation and its angle.

On claim 14: the guide 100 is part of tubing section 82, which is made of metal ([0021]). It is inherent to metal to be flexible to some degree so that when forced out of equilibrium, it returns to equilibrium. Furthermore, the limitation “to return to an

appropriate position with respect to the body” implies a method of use limitation and as such constitutes functional language. In reference to the claim language referring to “to return to an appropriate position with respect to the body”, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

On claim 21: Ganoza et al teach (title, abstract, Figures 1-5 and 8, and [0017]-[0039]) an apparatus 80 (Figures 4-5 and 8) for executing an operation in a pressure vessel 10 of a nuclear reactor (a cleaning operation is a special case of an operation), comprising:

a body 84 capable of being suspended and lowered into the vessel 10 (N.B.: the cleaning device is lowered into the vent inlet 66 of the inlet mixer 40 in said pressure vessel 10 (see Figures 1-2 and 4-5, and [0018]-[0021]);

a tool 92 ([0021] and Figures 4-5 and 8) attached to the body (see Figures 4-5) capable of at least one of repairing and inspecting an interior of a pump 34 ([0017]) in the pressure vessel 10 (N.B.: cleaning is a special case of repairing); and

a guide 100 supported at a lower portion of the body (see Figure 8 in conjunction with Figures 4-5); the guide capable of being inclined with respect to a vertical axis (see Figures 4-5 and 8, and [0023]) when the body is suspended (as is the case in Figure 8) and the guide is inserted into an opening 66 (Figure 8 and [0021]) in the pump.

Said guide is capable of having an inclined surface with respect to a vertical axis of the body when the body is suspended (see, e.g., the inclined surface as disclosed in Figures 4 and 5 and their discussion in [0020]-[0024]) while the guide is movably supported at a lower portion of the body, when the body is suspended as depicted in said Figures 4-5, i.e., with the body hanging down rather than up.

Furthermore, the limitation "when the body is suspended, wherein the guide movably supported at a lower portion of the body so that the inclined surface of the guide is first inserted into the pump when the body is suspended and lowered into the vessel" is purely functional language, limiting intended use rather than the structure of the apparatus. In reference to the claim language referring to the portion cited above, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the underlying case, Ganoza et al teaches a guide 100 supported as claimed as discussed above, which by virtue of the suspension through 84 and 82 ([0021]-[0022]) is capable of having an inclined surface (note its flexibility at least to a certain extent is implied by the bent form implying spring function), while the specifics of the pump do not belong to the apparatus and pertains exclusively to an object to which said apparatus may be applied. Said apparatus is capable of being applied to said pump when the body is suspended,

depending only on the direction of gravitation, and is capable of being lowered into the body when said body has an opening as described.

Also, the limitation "body capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel" intends to describe a structural boundary condition in terms of purely functional language, rendering the limitation indefinite under 112, second paragraph (see rejections under 35 USC 112, second paragraph, overleaf, while failing to definitely limit said structural limitations. Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the instant case, the claimed apparatus comprises of body, tool and guide and can be applied to a suitable vessel in compliance with the claim language dependent only upon dimensional limitations not provided.

Finally, the tapering surface of an opening as claimed is a tapering surface an opening of an object (pump) to which the apparatus is applied, while the tapering nature of said opening surface is no way inhibits the application of the apparatus by Paillaman et al because the drive cable enables the guide to be inserted at an angle. Once again, the tapering surface of said opening limits an object to which the apparatus is applied and hence constitutes functional language failing to limit the invention of the apparatus

as explained above for the same reasons, said same reason herewith being included by reference.

On claim 22: the guide 100 is freely supported at the lower portion of the body 84 (i.e., attached at one end only) (Figure 4) and inclined with respect to a vertical axis (main axis of 84 or main axis of 82; see Figure 4). Whether this angle is “appropriate” is a matter of use and hence of functional language: In reference to the claim language referring to “appropriate”, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). Parenthetically, as evidenced from Figure 8 the angle is suitably flexible for insertion of the body 84 into the jet pump 34. Finally, a gravitational force is inherent and thus is one of the forces on the guide, and hence contributes to its orientation and its angle.

On claim 23: the guide 100 is part of tubing section 82, which is made of metal ([0021]). It is inherent to metal to be flexible to some degree so that when forced out of equilibrium, it returns to equilibrium. Furthermore, the limitation “to return to an appropriate position with respect to the body” implies a method of use limitation and as such constitutes functional language. In reference to the claim language referring to “to return to an appropriate position with respect to the body”, intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from

Art Unit: 3663

the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963).

On claim 31: an orientation of the guide *can be varied* by a moveable support so as to correspond to an interior surface of the pump as the guide is inserted into the pump because of aforementioned flexible joints. Again, the limitation is one of intended use, said intended use inter alia dependent upon spatial structures and dimensions (of the pump) not claimed (nor disclosed in relation to those of the guide). Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963).

Response to Arguments

Applicant's arguments filed 6/7/07 have been fully considered but they are not persuasive. The substantially amended claim language (a) falls short of being fully supported by the specification (see rejections under 35 USC 112, first paragraph, for new matter overleaf for an explanation, said explanation being included here by reference), (b) is indefinite for claiming a structural limitation fully in terms of functional language directed to an indefinite intended use, said use being indefinite in the absence of spatial structure and dimensions of pump and (pressure) vessel in relation to the claimed "body", while (c) the previous art rejections are not overcome.

Specifically, the limitations “body suitable for being suspended and lowered into the vessel during operation without being connected to the vessel or a pump connected to the vessel” and “body capable of being suspended and lowered into the pressure vessel during the operation without mechanical coupling to the pressure vessel or a pump connected to the pressure vessel” intends to describe a structural boundary condition in terms of purely functional language, rendering the limitation indefinite under 112, second paragraph (see rejections under 35 USC 112, second paragraph, overleaf, while failing to definitely limit said structural limitations. Intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

In response to Applicant's Remarks traversing Paillaman, second par. of page 8 of Remarks, Paillaman intends to use the claimed body, while on the capability of using said body in the claimed manner for any vessel is of patentable weight. Because the vessel's spatial and dimensional features are crucial but were not provided nor claimed, said capability pertains not only to Paillaman's (pressure) vessel and pump but to any. Second, Applicant does not explain why element 84 does not read on “body”: what disclosed structural features of “body” are truly implied by the claim language in light of the Specification so as to outrule said identification? Applicant does not explain. The same issue can be raised about Applicant's traverse of the identification of element 120

Art Unit: 3663

with the claimed "guide" (second and third paragraphs of page 8 of Remarks). Applicant does not identify structural defining properties for either "body" or "guide".

Accordingly, the "Specific Deficiencies" of Paillaman et al as listed (page 9) when applied to the new claim language, taking into account the foregoing discussion of both the deficiencies of the claim language under 35 USC 112, first and second paragraphs, and in specific relation to the arguments of by Paillaman et al do not persuade.

In response to Applicant's Remarks (page 10) traversing Ganoza et al, the rigidity of tubing section as disclosed by Ganoza et al has no bearing on the movability of semi-circular bend 100 nor on the fact that said semi-circular bend is supported. Inherent in bent material is a transverse coefficient of elasticity relating force and resulting transverse movement of said bent material. Applicant appears to interpret the claim language in too narrow a fashion. Element 100 can be moved and is supported.

Furthermore, that the apparatus by Ganoza et al must use handling pole 160 to position the operation apparatus (page 10) has not definite repercussions for the claim language, and is, moreover, in principle dependent upon the spatial structural and dimensional parameters of both the operation apparatus and the vessel and pump. Applicant claims an operation apparatus. Not an operation apparatus for Ganoza's vessel or pump.

Accordingly, the "Specific Deficiencies" of Ganoza et al as listed (page 11) when applied to the new claim language, taking into account the foregoing discussion of both the deficiencies of the claim language under 35 USC 112, first and second paragraphs, and in specific relation to the arguments of by Ganoza et al do not persuade.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPM
July 9, 2007

Primary Patent Examiner:


Johannes Mondt (TC 3600, Art Unit: 3663)